

Amendments to the Claims

1. (Currently amended) ~~Device-A~~ Device for producing an electric field between a first electrode ~~(25)~~ and a second electrode ~~(27)~~, comprising:

- means for applying a potential difference between these two electrodes ~~(25, 27)~~, allowing to obtain, if this potential difference is applied alone,

a predetermined value of electric field in ~~the~~ a vicinity of the first electrode ~~(25)~~,

- means for forming modulation electrode ~~(28, 29)~~ located near to the first electrode ~~(25)~~, ~~either in the same plane, or so that the first electrode is inserted between the second electrode and said means forming modulation electrodes~~ so that the first electrode substantially totally occupies the space situated between the second electrode and the portion of said means forming modulation electrode that is the most distant from the second electrode,

- ~~means of control~~ means for applying a potential difference between the means for forming modulation electrode ~~(28, 29)~~ and the first electrode ~~(25)~~ in order to obtain through the contribution of said potential differences another predetermined value of electric field in said vicinity of the first electrode ~~(25)~~.

2. (Currently amended) ~~Device-A~~ Device according to claim 1, characterized in that the means for applying a potential difference between the first ~~(25)~~ and the second electrode, ~~(27)~~ and the control means each supply potential differences such that the value of the electric field in said vicinity of the first electrode ~~(25)~~ is greater than the value which it would be due to the potential difference alone between the first ~~(25)~~ and the second electrode ~~(27)~~.

3. (Currently amended) ~~Device~~ A Device according to claim 1, characterized in that the means for applying a potential difference between the first ~~(25)~~ and the second electrode, ~~(27)~~ and the control means each supply potential differences so that the value of the electric field in said vicinity of the first electrode ~~(25)~~ is lower than the value which it would be due to the potential difference alone between the first ~~(25)~~ and the second electrode ~~(27)~~.

4. (Currently amended) ~~A Device~~ device according to claim 1, characterized in that the first ~~(25)~~ and the second electrode ~~(27)~~ and the means forming modulation electrode ~~(28, 29)~~ are arranged in parallel.

5. (Currently amended) Device according to claim 1, characterized in that the means forming modulation electrode comprise two electrodes ~~(28, 29)~~ surrounding the first electrode ~~(25)~~.

6. (Currently amended) ~~Device~~ A device according to claim 1 characterized in that when the first electrode is inserted between the second electrode and the means forming modulation electrode, the means forming modulation electrode is made up of a single electrode.

7. (Currently amended) ~~Process~~ A Process for producing an electric field between a first electrode ~~(25)~~ and a second electrode ~~(27)~~, comprising:

- ~~the application of~~ applying a potential difference between the first ~~(25)~~ and the second electrode ~~(27)~~ so as to obtain, if this potential difference was applied alone, a predetermined value of electric field in the vicinity of the first electrode ~~(25)~~, and

- ~~the application of~~ applying a potential difference between the first electrode ~~(25)~~ and means forming modulation electrode ~~(28, 29)~~ and located near to the first electrode ~~(25)~~, so that the first electrode substantially totally occupies the space situated between the second electrode and the portion of said means forming modulation electrode that is the most distant from the second electrode either in the same plane or so that the first electrode is inserted between the second electrode and said means forming modulation electrode, in order to obtain in association with the electric field due to the application of the potential difference between the first ~~(25)~~ and the second electrode ~~(27)~~, another predetermined value of electric field.

8. (Currently amended) ~~Process-~~ The process according to claim 7, characterized in that the application of the potential difference between the first ~~(25)~~ and the second electrode ~~(27)~~ is such that, if this potential difference was applied alone, the electric field in said vicinity of the first electrode ~~(25)~~ would be greater than said other predetermined value.

9. (Currently amended) ~~Process-~~ The process according to claim 7, characterized in that the application of the potential difference between the first ~~(25)~~

and the second electrode (27) is such that, if this potential difference was applied alone, the electric field in said vicinity of the first electrode (25) would be lower than said other predetermined value.

10. (Currently amended) ~~Field~~ A field emission screen comprising:
- an anode plate (32) ~~and a cathode plate (31) facing one another, the anode plate (32) comprising, on its internal surface of the screen, at least one electrode (37) supporting phosphor means (20),~~
- ~~the a~~ cathode plate (31) facing the anode plate and comprising on its internal surface of the screen at least one electrode emitting electrons (35) at least partially facing the anode electrode (37), this the cathode electrode (35) becoming an emitter of electrons when the electric field in its vicinity exceeds a threshold value, the screen also comprising
- application means for a potential difference between said anode electrode (37) and said cathode electrode (35),
- characterized in that the screen further comprises:
- means forming modulation electrode (38, 39) located in the vicinity of the cathode electrode (35), ~~either on the same plane or so that the cathode electrode (35) is inserted between the anode electrode (37) and said means forming modulation electrodes~~ so that the cathode electrode substantially totally occupies the space situated between the anode electrode and the portion of said means forming modulation electrode that is the most distant from the anode electrode, the screen also comprising; and

control means for applying a potential difference between the cathode electrode (35) and the means forming modulation electrode (38,39), the means for applying potential differences is such that it provides for obtaining in said vicinity of the cathode electrode a predetermined value of electric field resulting from the contribution of said potential differences, said predetermined value being as one wishes either lower than said threshold value, or greater than said threshold value.

11. (Currently amended) ~~Display~~ The screen according to claim 10, characterized in that the means for applying a potential difference between said anode electrode (37) and said cathode electrode (35) is such that, in the absence of a potential difference applied between the cathode electrode (35) and the means forming modulation electrode (38, 39), said predetermined value of electric field is lower than said threshold value.

12. (Currently amended) ~~Display~~ The screen according to claim 10, characterized in that the means for applying potential difference between said anode electrode (37) and said cathode electrode (35) is such that, in the absence of potential difference applied between the cathode electrode (35) and the means forming modulation electrode (38, 39), said predetermined value of electric field is greater than said threshold value.

13. (Currently amended) ~~Display~~ The screen according to claim 10, characterized in that the means forming modulation electrode comprises two electrodes ~~(38, 39)~~ surrounding said cathode electrode ~~(35)~~.

14. (Currently amended) ~~Display~~ The screen according to claim 10, characterized in that, as said cathode electrode is located between said anode electrode and the means forming modulation electrode, the means forming modulation electrode ~~(50)~~ is made up of a single electrode.

15. (Currently amended) ~~Display~~ The screen according to claim 10, characterized in that, as said cathode electrode is located between said anode electrode and the means forming modulation electrode, said cathode electrode ~~(35)~~ and the means forming modulation electrode ~~(38, 39)~~ are separated by a layer of insulating material ~~(34)~~.

16. (Currently amended) ~~Display~~ The screen according to claim 10, characterized in that as said cathode electrode ~~(35)~~ comprises a conductor element on which is deposited a layer of emissive material ~~(30)~~.

17. (Currently amended) ~~Display~~ The screen according to claim 16, characterized in that the layer of emissive material ~~(47)~~ is separated from said conductor element ~~(45)~~ by a resistive film ~~(46)~~.

18. (Currently amended) ~~Display~~ The screen according to claim 17, characterized in that the layer of emissive material ~~(77)~~ only covers part of the resistive film ~~(76)~~.

19. (Currently amended) ~~Display~~ The screen according to claim 17, characterized in that the emissive material ~~(97)~~ is a material deposited on the resistive film ~~(96)~~ by means of a catalyst material ~~(92)~~ deposited on the resistive film ~~(96)~~ and on which the emissive material ~~(97)~~ settles preferentially.

20. (Currently amended) ~~Display~~ The screen according to claim 10, characterized in that it is of the matrix type having lines and columns, the crossing of lines and columns defining pixels.

21. (Currently amended) ~~Display~~ The screen according to claim 10, characterized in that the anode plate comprises a common electrode with phosphor means, the cathode plate ~~(81)~~ comprises a plate ~~(83)~~ with conductor lines (Y_i , Y_j , Y_k) constituting the means forming modulation electrode, covered with a layer of dielectric material ~~(84)~~, the layer of dielectric material supporting conductor columns ~~(85)~~, the lines and columns forming a matrix arrangement connected to addressing means and defining pixels, the conductor columns having an emissive material ~~(87)~~.

22. (Currently amended) ~~Display~~ The screen according to claim 21, characterized in that each pixel corresponds to the crossing of a line (Y_i , Y_j , Y_k) and several conductor columns (85).

23. (Currently amended) ~~Display~~ The screen according to claim 21, characterized in that the conductor lines (Y_i , Y_j , Y_k) comprise windows (80) facing the conductor columns (85), the emissive material (87) supported by the conductor columns being only present on the areas of the conductor columns corresponding to the windows (80).

24. (Currently amended) ~~Process-A~~ process for the use of a field emission display screen comprising at least one anode electrode (37) and at least one cathode electrode (35) facing one another, the cathode electrode comprising an emissive material (30) emitting electrons when the electric field in the vicinity of the cathode electrode (35) exceeds a threshold value, characterized in that, in order to obtain an emission of electrons from the emissive material, it comprises:

- ~~the application of~~ applying a potential difference between the anode electrode (37) and the cathode electrode (35) so as to obtain in the vicinity of the cathode electrode, if this potential difference was applied alone, an electric field of lower value than said threshold value, and

- ~~the application of~~ applying a potential difference between the cathode electrode (35) and the means forming modulation electrode (38, 39) located near the cathode electrode, so that the cathode electrode substantially totally occupies

the space situated between the anode electrode and the portion of said means forming modulation electrode that is the most distant from the anode electrode~~either in the same plane or so that the cathode electrode is inserted between the anode electrode and said means forming modulation electrode~~, so as to obtain in said vicinity of the cathode electrode, in association with the electric field due to the application of the potential difference between the anode (37) and cathode (35) electrodes, an electric field value greater than said threshold value.

25. (Currently amended) A process for the use of a field emission display screen comprising at least one anode electrode (37) and at least one cathode electrode (35) facing one another, the cathode electrode comprising an emissive material (30) emitting electrons when the electric field in the vicinity of the cathode electrode (35) exceeds a threshold value, characterized in that, in order to avoid an emission of electrons from the emissive material, it comprises:

- ~~the application of~~applying a potential difference between the anode electrode (37) and the cathode electrode (35) so as to obtain in the vicinity of the cathode electrode, if this potential difference was applied alone, an electric field of greater value than said threshold value, and

- ~~the application of~~applying a potential difference between the cathode electrode (35) and means forming modulation electrode (38, 39) located in the vicinity of the cathode electrode, so that the cathode electrode substantially totally occupies the space situated between the anode electrode and the portion of said means forming modulation electrode that is the most distant from the anode

~~electrode either in the same plane or so that the cathode electrode is inserted between the anode electrode and said means forming modulation electrode, so as to obtain in said vicinity of the cathode electrode,~~ in association with the electric field due to the application of the potential difference between the anode (37) and cathode (35) electrodes, an electric field value lower than said threshold value.

26. (Currently amended) ~~Device~~ A device according to claim 3, characterized in that the first (25) and the second electrode (27) and the means forming modulation electrode (28,29) are arranged in parallel.

27. (Currently amended) ~~Device~~ A device according to claim 4, characterized in that the means forming modulation electrode comprise two electrodes (28, 29) surrounding the first electrode (25).

28. (Currently amended) ~~Display~~ The screen according to claim 12, characterized in that the means forming modulation electrode comprises two electrodes (38, 39) surrounding said cathode electrode (35).

29. (Currently amended) ~~Display~~ The screen according to claim 12, characterized in that, as said cathode electrode is located between said anode electrode and the means forming modulation electrode, the means forming modulation electrode (50) is made up of a single electrode.

30. (Currently amended) ~~Display~~ The screen according to claim 12, characterized in that, as said cathode electrode is located between said anode electrode and the means forming modulation electrode, said cathode electrode ~~(35)~~ and the means forming modulation electrode ~~(38, 39)~~ are separated by a layer of insulating material ~~(34)~~.

31. (Currently amended) ~~Display~~ The screen according to claim 15, characterized in that as said cathode electrode ~~(35)~~ comprises a conductor element on which is deposited a layer of emissive material ~~(30)~~.

32. (Currently amended) ~~Display~~ The screen according to claim 19, characterized in that it is of the matrix type having lines and columns, the crossing of lines and columns defining pixels.

33. (Currently amended) ~~Display~~ The screen according to claim 22, characterized in that the conductor lines (Y_i, Y_j, Y_k) comprise windows ~~(80)~~ facing the conductor columns ~~(85)~~, the emissive material ~~(87)~~ supported by the conductor columns being only present on the areas of the conductor columns corresponding to the windows ~~(80)~~.

34. (New) The device of Claim 1, wherein the first electrode substantially completely occupies the space situated between the second electrode and the means forming modulation electrode.

35. (New) The screen of Claim 10, further comprising an insulating film, wherein the cathode electrode is separated from the means forming modulation electrode by at least the thickness of the insulating film.

Amendments to the Drawings

FIGS. 1 and 2 have been amended to provide Prior Art designations thereto.

Substitute sheets reflecting these changes is enclosed herewith, both replacement and annotated pages.